ABSTRACT OF THE DISCLOSURE

A system and method for providing thermal protection to printheads in a large format ink jet printer. In the system and method, an adaptive thermal print swath servo ("ATPSS") module configured to divide a swath of a print operation into a plurality of individual cells is utilized. In a preferred embodiment, each cell is approximately four (4) inches long, although a user may configure the cell length for any length. The ATPSS module may be further configured to predict a peak temperature of each printhead in printing each cell of a swath. If any of the printheads is predicted to exceed a maximum allowed temperature (e.g., predetermined by the printhead manufacturer) in printing any of the cells, the ATPSS module may be further configured to divide an upcoming pass of the printhead across a recording medium into a series of sub-passes. In this respect, the upcoming pass is decomposed into a series of sub-passes by the utilizing a respective predetermined mask, which subsequently reduces a drop frequency (drops/time) proportionately to the number of sub-passes while maintaining the swath height. The predetermined mask divides the upcoming pass into an equivalent number of sub-passes without advancing the recording medium. Accordingly, the ATPSS module may preserve the life of the printheads by avoiding excessive heat generation in the printheads.